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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,096	06/15/2001	Brian E. Joseph	1474(Touchstone)	7698
30010	7590	01/06/2005	EXAMINER	
AUZVILLE JACKSON, JR. 8652 RIO GRANDE ROAD RICHMOND, VA 23229			VO, HAI	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/882,096

Applicant(s)

JOSEPH ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-22 is/are pending in the application.
- 4a) Of the above claim(s) 4 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-8,10-12,14-17 and 19-22 is/are rejected.
- 7) ☒ Claim(s) 9 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1771

1. All of the art rejections are withdrawn in view of the present response. However, upon further consideration, a new ground(s) of rejection is made in view of Dumlao et al (US 6,092,350) and Hatch (US 5,240,067).
2. Claim objections are withdrawn in view of the present amendment.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2, 5, 6, 10, 11, 14, 15, 19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dumlao et al (US 6,092,350). Dumlao teaches a sandwich panel comprising an upper facesheet, a core having a plurality of continuous, parallel, longitudinal channels between two planar opposing surfaces and a lower facesheet as shown in figure 3. The core and the facesheets are formed from a fiber reinforced composite material (column 9, lines 11-16, 52-55). The core is fabricated by pultrusion which reads on Applicants' extrusion (column 9, lines 19-20). The tube 46 has a 0.25 inch thick trapezoidal section (example). Accordingly, it is the examiner's position that Dumlao anticipates the claimed subject matter.
5. Claims 2, 3, 5-8, 10-12, 14-17, and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hatch (US 5,240,067). Hatch teaches an aluminum alloy extruded product having a cladding on the outer surface thereof (figure 6). Hatch teaches the cladding material formed from a zinc or brazing alloy (column 7, lines

Art Unit: 1771

50-51) which reads on Applicants' composite stiffening material. The examiner interprets that zinc alloy is sufficient to add strength to the extruded product. The zinc alloy is formed from a metal matrix of Al, Cu, Mg and Zn. The extruded product is multi-voided. Hatch does not specifically disclose the width of the multivoid. However, it appears that the extruded product is made of the same material and produced by the same process as disclosed in the present invention. Both products are suitable for use in heat exchangers. Therefore, it is not seen that the width of the multivoid of Hatch could have been outside the claimed range to enable the extruded product so as to perform the same function as a heat exchanger. Accordingly, it is the examiner's position that Hatch anticipates the claimed subject matter.

***Allowable Subject Matter***

6. Claims 9 and 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. One of skilled in the art would not be motivated to replace the fiber reinforced matrix composite with metal for the core of the structural composite sandwich from the impractical view of weight concern and cost increasing (see Dumbiao column 3, lines 40-52). Similarly, it would not have been obvious to substitute the metal matrix composite for the fiber reinforced polymer of the facesheet because to do so would defeat the purposes of providing light weight and low cost. There is no motivation to add ceramic fibers or ceramic particles in the cladding material of the extruded product of Hatch.

***Response to Arguments***

7. The art rejections over Ponnappan et al (US 6,293,333) have been overcome by the present response. Ponnappan does not teach the micro multi-void core having two planar surfaces as required by the claims.
8. The art rejections over Joshi et al (US 2002/0179284 A1) have been overcome by the present response. Joshi does not teach the parallel, longitudinal voids disposed between a pair of opposing surfaces and defined by integral ribs.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Art Unit: 1771

Should you have questions on access to the Private PAIR system, contact the  
Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV

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